Abstract

Title: Muscle imbalances in white water canoeing measured by TMG

Aims: The aim of this paper was to select the endangered muscle groups, to identify possible imbalances using tensiomyograph (TMG 100) and to define hypotheses about the influence of training load in water slalom on the development of imbalances in the selected specific muscle groups.

Methods: This work has a character of a qualitative research. Specifically, 6 case studies were carried out, appended by control measurements after one year, in which emphasis was placed on the detection of characteristic muscle imbalances that could arise as a result of specific training activities in water slalom. To measure these muscle imbalances, we used tensiomyograph (TMG 100).

Results: Among the measured participants, we found that during a one-year training cycle, significant changes in the functionality of individual muscle groups have occurred. The most endangered groups, ie the groups with the most significant changes, included BB, DEL, LD and TRM. There have been also notable changes in the functional symmetry of the elbow joint, where 4 out of 5 participants have deteriorated during the year. It was also found, that women might be more prone to imbalances as an effect of the specific activity compared to men.

Key words: white water canoeing, specific activity, imbalance, TMG